

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND**

SELECTIVE INSURANCE COMPANY :
As subrogee of SMULLENS :
SALVAGE AND TOWING :
 :
v. : Civil No. WMN-03-0178
 :
EMPIRE COMFORT SYSTEMS et al. :
 :
v. :
 :
SHARP ENERGY, INC. :

MEMORANDUM

Before the Court is the motion of Defendants Empire Comfort Systems (Empire) and BSH Electrodomeesticos Espana, S.A. (BSH), for summary judgment against Plaintiff Selective Insurance Company (Selective), as subrogee of Smullens Salvage and Towing (Smullens). Paper No. 70. The motion is fully briefed and is ripe for decision. Upon a review of the motion and the applicable case law, the Court determines that no hearing is necessary (Local Rule 105.6) and that Defendants' motion will be granted.

I. FACTUAL AND PROCEDURAL BACKGROUND

On November 1, 2000, a fire occurred at Smullens Salvage and Towing, an automotive recycling facility in Prince Anne, Maryland, where parts are recovered from wrecked vehicles for resale. The fire caused significant damage to Smullens' building and its auto parts inventory. As subrogee of Smullens, Selective filed the instant action, alleging that a propane heater

manufactured, designed and/or distributed by Defendants Empire and BSH caused the fire. Smullens purchased the heater in question in 1991 from Sharp Energy, Inc. (Sharp), and had Sharp mount the heater to a plywood wall in the office of the Smullens building.¹

Following the fire, Selective's fire investigator conducted a cause and origin examination and concluded that the fire originated in and around the area of the heater. On January 21, 2003, Selective brought suit on theories of negligence, strict product liability, misrepresentation, and breach of warranty. Selective's claims are based primarily on the opinions of its engineering expert, Kenneth McLauchlan, who alleges that the fire occurred as a result of pyrophoric decomposition, "a chemical change that occurs as a result of long term low temperature heating of wood." Report of Kenneth McLauchlan 5.² Under the

¹ On June 25, 2003, Empire filed a third-party complaint against Sharp. Paper No. 22. In the event of a finding of negligent installation, Empire asserts that Sharp is the responsible party. Additionally, on September 24, 2003, Selective filed a direct claim of negligence against Sharp. Paper No. 37.

² Selective uses the term "pyrolysis" in referring to "the ignition process as described by McLauchlan." Opp'n 7. While it may generally apply to McLauchlan's analysis, "pyrolysis" is a broad term which refers to any "chemical decomposition of a substance by heat." Webster's New World Dictionary 1096 (3d College ed. 1988). Scientific acceptance of the phenomenon of pyrolysis does not translate into scientific acceptance of the specific theory McLauchlan employs in establishing the cause of the fire in the instant case.

theory of pyrophoric decomposition, over a long period of time, wood which is exposed to a low temperature heating source undergoes a chemical change which can result in the ignition of the wood at abnormally low temperatures. Id. McLauchlan claims that the fire at Smullens resulted from long term exposure of the wood paneling to the heat produced by the wall-mounted heater.

In furtherance of his conclusion, McLauchlan contends that a build up of dust, lint and other ambient debris accumulated in the rear of the heater, creating "a bridge of combustible material that extended from the hot surface of the back of the heater to the combustible wall." Id. Both Selective and McLauchlan claim that the accumulation of debris was made possible by the heater's failure to comply with the standards promulgated by the American National Standards Institute (ANSI), requiring a 3/8 inch clearance between the rear of the heater and the wall on which the heater was mounted. The "bridge of debris" resulting from the alleged design flaw exposed the wall behind the heater to higher temperatures than would normally occur had the heater been designed to ensure an appropriate clearance. The exposure to heightened temperatures allegedly contributed to the pyrophoric decomposition of the wall, ultimately causing the wall to ignite.

In the instant motion, Defendants argue that Selective's expert is unqualified to render an opinion and that his opinion

is predicated upon a scientifically unreliable theory. Thus, Defendants claim that Selective has failed to meet its burden of proof with respect to its claims of negligence, strict liability, and misrepresentation. Defendants also argue that Selective's breach of warranty claim is procedurally barred by Maryland's statute of limitations.

II. Exclusion of Expert Testimony

Rule 702 of the Federal Rules of Evidence provides:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

Fed. R. Evid. 702. A two-step inquiry is relevant under Rule 702: the Court must determine "(1) whether the witness is qualified, and (2) if qualified, whether his opinion is reliable, in that it is based on sufficient facts and sound methodology." Berlyn, Inc. v. Gazette Newspapers, Inc., 214 F. Supp. 2d 530, 534 (D. Md. 2002). The qualifications of the witness are liberally judged and the test for exclusion is a strict one. Thomas J. Kline, Inc. v. Lorillard, Inc., 878 F.2d 791, 799 (4th Cir. 1989). Selective's expert, Kenneth McLauchlan, is a

professional engineer registered in the state of Maryland. He holds a bachelor of science in mechanical engineering, he is a certified fire and explosion investigator through the National Association of Fire Investigators, he has extensive experience designing gas-fired heating, ventilation and air conditioning systems, and he has conducted hundreds of forensic fire investigations involving heating equipment, including several involving gas-fired, wall-mounted space heaters. See Curriculum Vitae of Kenneth McLauchlan; Aff. of Kenneth McLauchlan. Considering his experience and training, the Court finds Mr. McLauchlan qualified to testify as an expert.

The second step of the Court's inquiry under Rule 702 is designed to "ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable." Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579, 589 (1993). The subject of the Court's inquiry in assessing relevance and reliability is that of "the scientific validity . . . of the principles that underlie the proposed submission." Daubert, 509 U.S. at 594-95. In Daubert, the United States Supreme Court articulated a non-exhaustive list of factors that may be helpful in assessing the scientific validity of the reasoning and methodology underlying expert testimony: "(1) whether a 'theory or technique . . . can be (and has been) tested,' (2) whether it 'has been subjected to peer review and publication,' (3) whether,

in respect to a particular technique, there is a high 'known or potential rate of error' and whether there are 'standards controlling the technique's operation,' and (4) whether the theory or technique enjoys 'general acceptance' within a 'relevant scientific community.'" Kumho Tire Co. v. Carmichael, 526 U.S. 137, 149-50 (1999) (quoting Daubert, 509 U.S. at 592-94).

Selective does not contend that the principles underlying pyrophoric carbonization satisfy the Daubert factors.³ Rather, Selective replaces the analysis described in Daubert with the contention that "scientific knowledge of a phenomenon does not require that a theory or an equation exist for it . . . a collection of observations is sufficient to form a basis for making scientific conclusions." Opp'n 14 (quoting Vytenis Babrauskas, Ph.D., 'Pyrophoric Carbon' and Long-Term, Low-Temperature Ignition of Wood 6 (emphasis in original)).⁴

³ The Court notes that, throughout its opposition brief, Selective refers to the theory espoused by McLauchlan as "pyrophoric carbonization." See, e.g., Opp'n 7. Pyrophoric carbonization is the specific type of pyrophoric decomposition which Selective contends led to ignition. The term "pyrophoric carbonization" refers to the alleged process by which "low-temperature, long-term heating of wood converts the wood to 'pyrophoric carbon' and that this pyrophoric carbon is much more readily ignitable than virgin wood." Opp'n 7 (citing Vytenis Babrauskas, Ph.D., 'Pyrophoric Carbon' and Long-Term, Low-Temperature Ignition of Wood 3).

⁴ Selective's brief fails to mention that this article, upon which they also substantively rely to support the scientific validity of pyrophoric carbonization, was originally published under the title "Pyrophoric Carbon . . . The Jury is Still Out."

Selective cites no authority showing that a "collection of observations" may serve as a sufficient basis for satisfying a reliability inquiry under Rule 702. Rather, relying solely upon the alleged observations cited in the Babrauskas article, Selective argues that "it is possible to reliably conclude that any heating device of 77°C [170.6°F] or higher, if applied to a wood surface for a protracted period of time, presents a documented ignition hazard." Id.

The Court finds that Selective has failed to meet its burden of showing that the principles underlying the theory of pyrophoric carbonization meet the level of scientific validity which Rule 702 is designed to ensure. Not only does the theory fail to meet the factors enunciated in Daubert, but the Babrauskas publications introduced by Selective and relied upon by McLauchlan each cast serious doubt on the general scientific acceptance, methodology, and adequacy of experimentation underlying the theory of pyrophoric carbonization. See Truck Ins. Exch. V. Magnetek, Inc., 360 F.3d 1206, 1211-12 (10th Cir. 2004) (finding sufficient evidence to support the conclusion that that Babrauskas' theory of long-term, low-temperature ignition

See Vytenis Babrauskas, Pyrophoric Carbon . . . The Jury is Still Out, 51:2 THE FIRE AND ARSON INVESTIGATOR 12-14 (Jan. 2001). The cited version of the paper was revised following a federal appellate court decision which rejected the scientific validity of the theory of pyrophoric carbonization. See Truck Ins. Exch. V. Magnetek, Inc., 360 F.3d 1206, 1211-12 (10th Cir. 2004). The cited version of the paper does not appear to have been republished.

due to pyrophoric carbonization failed to meet reliability standard of Rule 702). In 'Pyrophoric Carbon' and Long-Term, Low-Temperature Ignition of Wood, Babrauskas notes that "[t]he chemistry, physics and thermostructural behavior involved in producing spontaneous combustion due to long-term, low-temperature heating of wood are clearly very complicated, interrelated phenomena. It may be many decades before a theory is evolved that can give useful numerical results." Vytenis Babrauskas, Ph.D., 'Pyrophoric Carbon' and Long-Term, Low-Temperature Ignition of Wood 6. In The Ignition Handbook, cited directly in McLauchlan's report, Babrauskas writes that wood's "enormously complicated degradation chemistry is known today only in its roughest outline" and that "[w]hat has been missing - and is very much needed - is an experimental study where the low-temperature, long-term ignition of wood would be examined in a realistic environment." Vytenis Babrauskas, THE IGNITION HANDBOOK 960 (2003); see also Bitler v. A.O. Smith Corp., 400 F.3d 1227, 1235-36 (10th Cir. 2004) (noting that "[w]hen an expert proposes a theory that modifies otherwise well-established knowledge about regularly occurring phenomenon, such as the normal ignition temperature of wood . . . the importance of testing as a factor in determining reliability [is] at its highest"). In another post-Magnetek publication, Babrauskas observes that "since a theory of long-term, low-temperature ignition of wood is not

available, obviously it should be urged that research be carried on so that one day this might become possible." Vytenis Babrauskas, Truck Insurance v. Magnetek: Lessons to be Learned Concerning Presentation of Scientific Information, 55:2 THE FIRE AND ARSON INVESTIGATOR 9-10 (Oct. 2004).⁵ In light of the lack of evidence supporting the scientific reliability of the theory of pyrophoric carbonization, the Court will exclude McLauchlan's testimony with regard to that theory.⁶

III. STANDARD OF LAW

Summary judgment is proper if the evidence before the court, consisting of the pleadings, depositions, answers to interrogatories, and admissions of record, establishes that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law. Fed. R. Civ.

⁵ The Court also notes that, to the extent that the validity of the theory of pyrophoric carbonization has been subjected to peer review, it has been highly criticized. See, e.g., Bernard R. Cuzzillo & Patrick J. Pagni, The Myth of Pyrophoric Carbon, FIRE SAFETY SCIENCE - PROCEEDINGS OF THE SIXTH INTERNATIONAL SYMPOSIUM 301-12 (1999); Bernard R. Cuzzillo, Patrick J. Pagni, R. Brady Williamson & Robert A. Schroeder, The Verdict is In! Pyrophoric Carbon is Out, FIRE ARSON INVESTIGATOR 19-21 (Oct. 2002).

⁶ Additionally, the Court finds Selective's argument that "defendants have not presented any evidence of their own to disprove the validity of pyrophoric decarbonization" is based upon a faulty premise. See Opp'n 14. Defendants are not required to disprove the theory in question, rather, it is the proponent of expert testimony who carries the burden to establish its admissibility by a preponderance of the evidence. Cooper v. Smith & Nephew, Inc., 259 F.3d 194, 199 (4th Cir. 2001).

P. 56(c); Celotex Corp. v. Catrett, 477 U.S. 317, 322 (1986). A party seeking summary judgment bears the initial responsibility of informing the court of the basis of its motion and identifying the portions of the opposing party's case which it believes demonstrate the absence of a genuine issue of material fact. Id. at 323. The non-moving party is entitled to have "all reasonable inferences . . . drawn in its respective favor." Felty v. Graves-Humphreys Co., 818 F.2d 1126, 1129 (4th Cir. 1987).

If the movant demonstrates that there is no genuine issue of material fact and that the movant is entitled to summary judgment as a matter of law, to withstand the motion for summary judgment, the non-moving party must produce sufficient evidence in the form of depositions, affidavits or other documentation which demonstrates that a triable issue of fact exists for trial. Celotex, 477 U.S. at 324. Unsupported speculation is insufficient to defeat a motion for summary judgment. Felty, 818 F.2d at 1128 (citing Ash v. United Parcel Serv., Inc., 800 F.2d 409, 411-12 (4th Cir. 1986)). Furthermore, the mere existence of some factual dispute is insufficient to defeat a motion for summary judgment; there must be a genuine issue of material fact. Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 247-48 (1986). Thus, only disputes over those facts that might affect the outcome of the case under the governing law are considered to be "material." Id.

IV. SUMMARY JUDGMENT

_____ Selective argues that, even without expert opinion testimony regarding the theory of pyrophoric carbonization, sufficient evidence exists to support its asserted claims that the heater was defective in its design or that Defendants either misrepresented its potential danger or failed to warn of that danger. While the elements of the individual claims asserted by Selective may vary, in each, Selective must establish causation. See Chicago Title Ins. Co. v. Allfirst Bank, 905 A.2d 366, 378 (Md. 2006) (negligence); Halliday v. Sturm, Ruger & Co., Inc., 792 A.2d 1145, 1150 (Md. 2002) (strict liability); Gross v. Sussex Inc., 630 A.2d 1156, 1162 (Md. 1993) (misrepresentation).

In some products liability cases, particularly those which allege the malfunction of complex machinery, expert testimony is required to establish negligence and causation. Holzhauser v. Saks & Co., 697 A.2d 89, 95 (Md. 1997) (citing Dover Elevator Co. v. Swann, 638 A.2d 762, 773 (Md. 1994)). The design and operation of a gas powered heating appliance is sufficiently complex an issue to require the testimony of an expert. See Moser v. Agway Petroleum Corp., 866 F.Supp. 262, 264 (D. Md. 1994) (noting that the average lay person would require expert testimony to come to a conclusion regarding the operation of a heater which "involves mechanical parts, combustion, and electrical circuits"); Wood v. Toyota Motor Corp., 760 A.2d 315,

318 (Md. Ct. Spec. App. 2000) (finding that expert testimony is necessary when addressing a subject that "is so particularly related to some science or profession that it is beyond the ken of the average layman"). Without expert testimony regarding the theory of pyrophoric carbonization, insufficient evidence exists upon which a rational trier of fact could reasonably infer that the heater caused the fire. See Prudential Secs. Inc. v. E-Net, Inc. 780 A.2d 359, 376 (Md. Ct. Spec. App. 2001) ("[T]o establish causal connection, the plaintiff must show that there is a reasonable probability or reasonable certainty that the act complained of caused the injury suffered."). Without this testimony, Selective's claims of negligence, strict liability, and misrepresentation must fail. See Stalnaker v. Gen. Motors Corp., 934 F. Supp. 179, 180 (D. Md. 1996) (noting that "[t]here can be no products liability recovery in Maryland simply on the post hoc conclusion that the mere happening of the accident shows the existence of a defective product").⁷

____ Finally, in Count IV of its Amended Complaint, Selective asserts a claim for breach of the implied warranty of fitness for a particular purpose. Under the commercial law article of the Maryland Code, "[a]n action for breach of any contract for sale must be commenced within four years after the cause of action has

⁷ In its direct claim against Sharp, Selective incorporated the claim of negligence asserted in its Amended Complaint. See Paper No. 37. Selective's claim against Sharp must fail for the reasons stated in this Memorandum.

accrued.” Md. Code Ann., Com. Law § 2-725(1). “A cause of action accrues when the breach occurs, regardless of the aggrieved party’s lack of knowledge of the breach. A breach of warranty occurs when tender of delivery is made” Id. at § 2-725(2); see also Frericks v. Gen. Motors Corp., 363 A.2d 460, 466 (Md. 1976) (holding that the limitations period of § 2-725 is applicable to third party beneficiaries).

Defendants argue that, because tender of delivery of the heater to Sharp occurred more than four years before the filing of the instant complaint, Selective’s claim for breach of warranty is time-barred under the Maryland statute. Selective does not challenge this contention and admits that Smullens purchased the heater from Sharp in December of 1991. See Opp’n 2. Thus, because Selective failed to assert its cause of action within the four year period provided by § 2-725, Count IV must fail. See Mills v. Int’l Harvester Co., 554 F. Supp. 611, 612 (D. Md. 1982) (“§ 2-725 means just what it says: a warranty action must be brought within four years of the tender of the goods forming the basis of the warranty.”).

V. CONCLUSION

For the reasons stated above, Defendants’ motion for summary judgment will be granted. A separate order consistent with the reasoning of this Memorandum will follow.

/s/

William M. Nickerson
Senior United States District Judge

Dated: March 20, 2007